

CLAIMS

1) A composite seal (1) insertable between two relatively rotating members (2, 3) to seal in fluidtight manner a cavity (4) defined between said members; the seal comprising a substantially rigid support (6) for connection to a first (3) of said members, and a flexible sealing element (8) carried integrally by said support (6) and comprising at least one annular sealing lip (10) cooperating in sliding contact with a sealing surface (11) of a second (2) of said members; said flexible sealing element (8) being made of a non-elastomeric, synthetic plastic resin; characterized in that said annular sealing lip (10) of the flexible sealing element (8) is substantially in the form of a cylindrical sleeve defined by a first lateral surface (18) cooperating, in use, with said sealing surface (11) of said second member (2), and by a second lateral surface (20) opposite the first and facing, in use, said first member (3); and by also comprising, in combination, an annular pressure element (21) made of an elastomer and carried integrally by said annular sealing lip (10) on said second lateral surface (20) of the annular sealing lip; and a radial toroidal pressure spring (22) carried by said elastomeric annular pressure element (21) and inserted in an annular seat (23) formed in the elastomeric annular pressure element (21), on the opposite side to said annular sealing lip (10).

2) A composite seal (1) as claimed in Claim 1, characterized in that said flexible sealing element (8) and said annular sealing lip (10) are formed integrally in one piece, and are made of polytetrafluoroethylene (PTFE) or any other synthetic plastic resin of physical-chemical characteristics similar to those of PTFE.

3) A composite seal (1) as claimed in Claim 1, characterized in that said elastomeric annular pressure element (21) is connected mechanically,

by chemical bonding, to said annular sealing lip (10) of said flexible sealing element (8) made of non-elastomeric synthetic plastic resin.

4) A composite seal (1) as claimed in Claim 3, characterized in that said elastomeric annular pressure element (21) is glued, at the curing stage, to said second lateral surface (20) of said annular sealing lip (10) of said flexible sealing element (8) made of non-elastomeric synthetic plastic resin.

5) A composite seal (1) as claimed in Claim 3, characterized in that said support (6) is at least partly embedded in a static elastomeric sealing element (26) glued, at the curing stage, to said support (6).

6) A composite seal (1) as claimed in Claim 5, characterized in that said elastomeric annular pressure element (21) is formed in one piece with said static elastomeric sealing element (26); and in that said static elastomeric sealing element is so formed that at least part of said flexible sealing element (8) made of non-elastomeric synthetic plastic resin is embedded in said static elastomeric sealing element and gripped against a stop surface (17) of said support (6).

7) A composite seal (1) as claimed in Claim 1, characterized in that said flexible sealing element (8) made of non-elastomeric synthetic plastic resin is connected mechanically to said support (6) and gripped between two adjacent rigid portions (12, 14) of the support.

8) A composite seal (1) as claimed in Claim 1, characterized in that said first lateral surface (18) of the annular sealing lip (10) is provided with ribs or spiral ridges (30) facing said sealing surface (11) of the second member (2) in use.

9) A composite seal (1) as claimed in Claim 1, characterized in that said support (6), in radial section, is substantially L-shaped, and comprises a flange portion (12), and a sleeve-shaped portion (16) substantially coaxial with the sleeve-shaped said annular sealing lip (10); the annular sealing lip

extending axially, on the opposite side to said flange portion (12) of the support (6), to a length greater than the axial extension of said sleeve-shaped portion (16) of said support (6).